



Forestry Commission

INVENTORY REPORT

# National Inventory of Woodland and Trees



**Scotland -  
Grampian Region**

**Part 1 - Woodlands of 2 hectares and over**



Forestry Commission

INVENTORY REPORT

# National Inventory of Woodland and Trees

Scotland - Grampian Region

Part 1 - Woodlands of 2 hectares and over

Woodland Surveys, Forest Research



© Crown copyright 1997  
First published 1997

ISBN 0 - 85538 - 363 - 1

Printed in the United Kingdom  
FPD9/31-IH(ECD)-HDSN/300-OCT97

Enquiries regarding this report should be directed to:

Head of Woodland Surveys  
Forest Research  
Forestry Commission  
231 Corstorphine Road  
Edinburgh  
EH12 7AT

# CONTENTS

## GRAMPIAN REGION - REPORT OF RESULTS

Acknowledgements	iv
Introduction	1
Background	1
Grampian Pilot	1
Survey Method	1
Main Points from the Grampian Results	2
Map 1 Distribution of Woodland within Grampian Region	3
Map 2 Distribution of Woodland by Ownership within Grampian Region	4
Tables	
Table 1 Summary of Areas by Ownership	5
Chart - Woodland Area by Ownership	5
Table 2a Size Class Distribution of Woodland	6
Table 2b Size Class Distribution of Woodland by Ownership Units	6
Table 3 Areas of Woodland by Forest Type and Ownersip	7
Chart - %Forest Type by Area - All Woodland	7
Table 4a Areas of Woodland by Principal Species and Ownership	8
Graph - as above	9
Table 4b High Forest - Areas by Principal Species and Ownership	10
Graph - as above	11
Table 4c Other Woodland - Areas by Principal Species and Ownership	12
Graph - as above	13
Table 5a High Forest - Area by Principal Species and Planting Year Classes	14
Graph - High Forest - Areas of Woodland by Planting Year Class	15
Table 5b High Forest - Forestry Commission - Areas by Principal Species and Planting Year Classes	16
Graph - High Forest - Forestry Commission - Areas by Principal Species and Planting Year Classes	17
Table 5c High Forest - Private - Areas by Principal Species and Planting Year Classes	18
Graph - High Forest - Private - Areas by Principal Species and Planting Year Classes	19
Table 6 High Forest - Principal Species by Planting Year Classes	20
Table 7 Ownership Type by Area and Percentage	20
Comparison of Results with the 1980 Census	21
Table 8 Woodland Areas and Ownership	21
Graph - High Forest - Comparison of Area by Planting Year Class	21
Table 9 High Forest - Comparison - Area by Principal Species	22
Graph - Comparison - Areas by Principal Species	23
Graph - Comparison - Areas by Planting Year Classes	23
Glossary	24

## ACKNOWLEDGEMENTS

The Forestry Commission is grateful to many people who helped in the completion of this survey. In particular, the Forestry Commission would like to thank owners and occupiers of the land selected for sampling, and the Macaulay Land Use Research Institute for their help with the digital map.

Staff concerned with survey work in Grampian Region were:- Bob Selmes, Principal Survey Officer, later succeeded by Douglas Wright, Head of Woodland Surveys Branch, who were in overall charge. Alex Herd, Survey Officer supervised the fieldwork which was undertaken by Nick Evans, David Kennedy, Survey Foresters and Andrew Wright, Andrew Kennedy and Julia Tilson, Survey Assistants. Simon Gillam, Head of Statistics, provided valuable statistical advice.

Preparation of the digital cartography for the Region was carried out by Graham Bull, Woodland GIS Officer, and Woodland GIS Assistants Esther Whitton, Chris Brown and Robert Beck.

Preparation of this Report was undertaken by Justin Gilbert, Woodland Data Officer.

# INTRODUCTION

The following report presents the results of the main woodland survey for Grampian Region from the Forestry Commission National Inventory of Woodlands and Trees.

The Inventory consists of two parts:

**PART 1: The main woodland survey covering woodlands of 2 or more hectares.**

**PART 2: The small woodland and trees survey covering small woodlands, groups of trees and individual trees.**

The results which follow are for Part 1, the main woodland survey, with a reference date of 31 March 1994. Woodland Surveys Branch of Forest Research was responsible for carrying out the survey and for compiling the report.

Part 2 of the Inventory will be published separately in 1998.

## BACKGROUND

The Forestry Commission has carried out a number of national woodland surveys since 1924 with the interval between surveys being 15-20 years. The most recent of these surveys was in 1979-82. With the statistics becoming increasingly out of date the Forestry Commission decided to undertake a new survey called the National Inventory of Woodland and Trees.

The aim is to complete the survey for Great Britain by March 2001. Priority is being given to Scotland followed by Southern England, Wales and Northern England.

## GRAMPIAN PILOT

Grampian Region was selected as the pilot area for the main woodland survey. Preparatory work on methods and procedures started in 1993 with fieldwork beginning in Grampian during late 1993 and being complete by 1994. Although Grampian Region ceased to exist as a local authority on 31 March 1996 it remains a useful geographical unit for presentation and also for comparison with results from the previous survey.

## SURVEY METHOD

In Scotland the main survey has been able to use the digital map from the Land Cover of Scotland (LCS) 1988 project.

For Grampian Region, this digital map has been updated to 31 March 1994 and gives the extent of all woodland over 2 hectares. The total area of woodland in Grampian was obtained from the digital map with ground sampling undertaken to evaluate a wide range of woodland information such as species, age and stocking.

From the digital map the area of each woodland was recorded and this information was used to determine the intensity at which any selected woodland would be sampled. The overall sampling scheme was as follows:

**2.0ha - <100ha : every fifth wood**  
**100ha - <500ha : two woods in five**  
**500ha and larger : all woods**

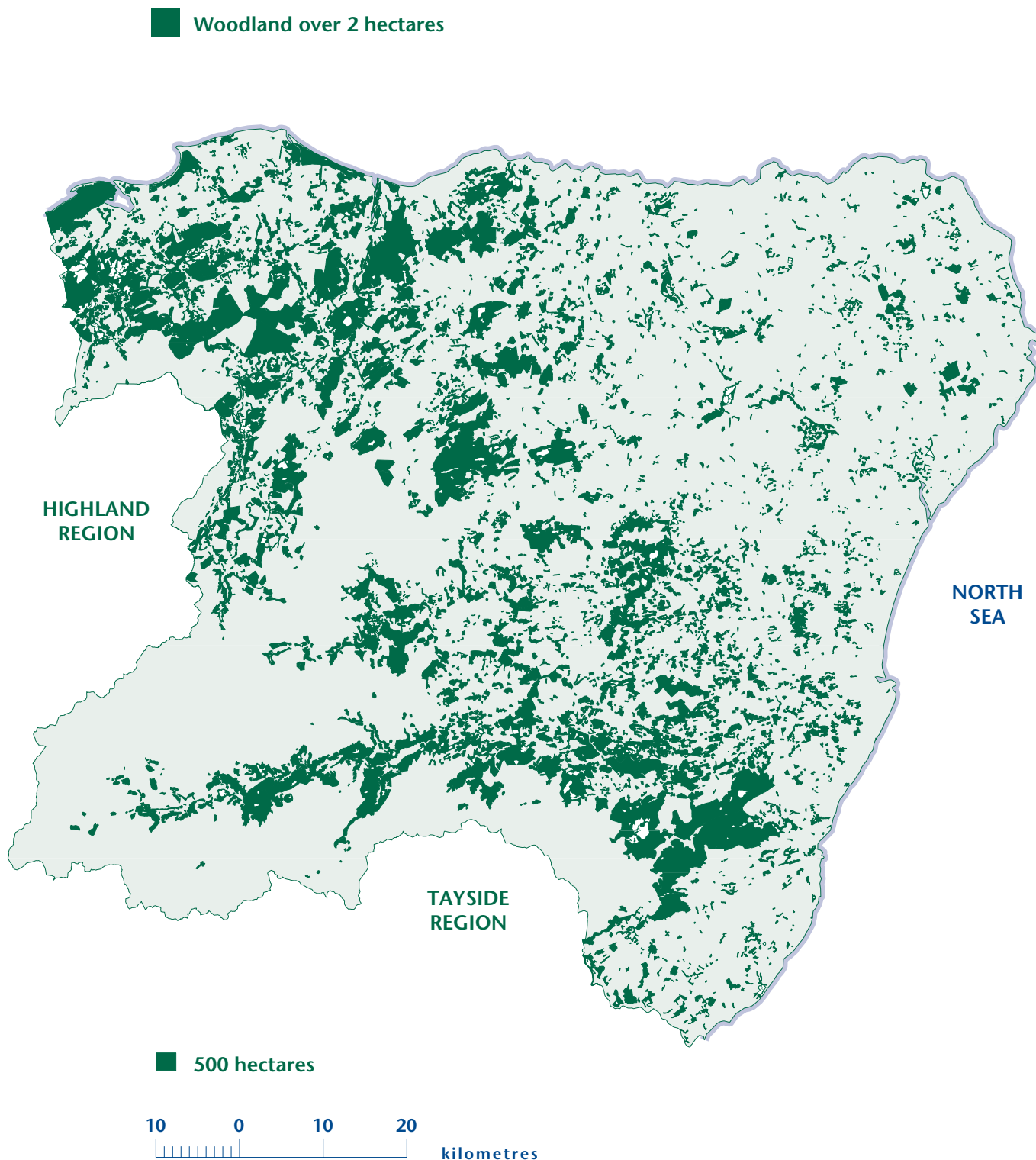
1ha square plots were used to sample the selected woodlands on the ground. This was a change of practice from all previous Census surveys, where whole woods have been selected for survey. For each of the three bands of woodland area a different sampling grid was used with the density of the squares being reduced as the woodlands increase in size. The overall aim was to sample 1% of the woodland in each size class.

The main difference from the 1980 Census is the change in the minimum woodland area from 0.25ha to 2.0ha. This means at this stage that the results of the main survey in the Inventory cannot be compared directly with the 1980 Census. However, when the next part of the Inventory is completed data will be available for Small Woodland between 0.25ha and 2.0ha. This will make an analysis of change possible using comparable sets of information.

## MAIN POINTS FROM THE GRAMPIAN RESULTS

- The total area of woodland in Grampian Region is 154,902 hectares. This represents 17.7% of the land area. (Table 1)
- 98,011 hectares or 63% of woodland is in private ownership and 56,891 hectares or 37% of woodland is owned by or leased to the Forestry Commission. (Table 1)
- There are a total of 2498 woods over 2ha in Grampian with a mean wood area of 62 hectares. (Table 2)
- Conifer woodland is the dominant forest type representing 72% of all woodland. Broadleaved woodland represents 10%, mixed woodland 6% and open space within woodlands 9%. (Table 3)
- The main conifer species is Scots pine covering 41,284 hectares or 36% of all conifer species. 68% of all Scots pine is within private woodlands. (Table 4a)
- The main broadleaved species is birch covering 10,167 hectares or 50% of all broadleaved species. 93% of birch is within private woodlands. (Table 4a)
- High Forest covers 124,511 hectares or 91% of land under tree species. (Table 4b)
- Woodland land cover has increased by 23,990 hectares from 15.0% to 17.7% of the land area since 1980. (Table 8)

## MAP 1 - DISTRIBUTION OF WOODLAND WITHIN GRAMPIAN REGION

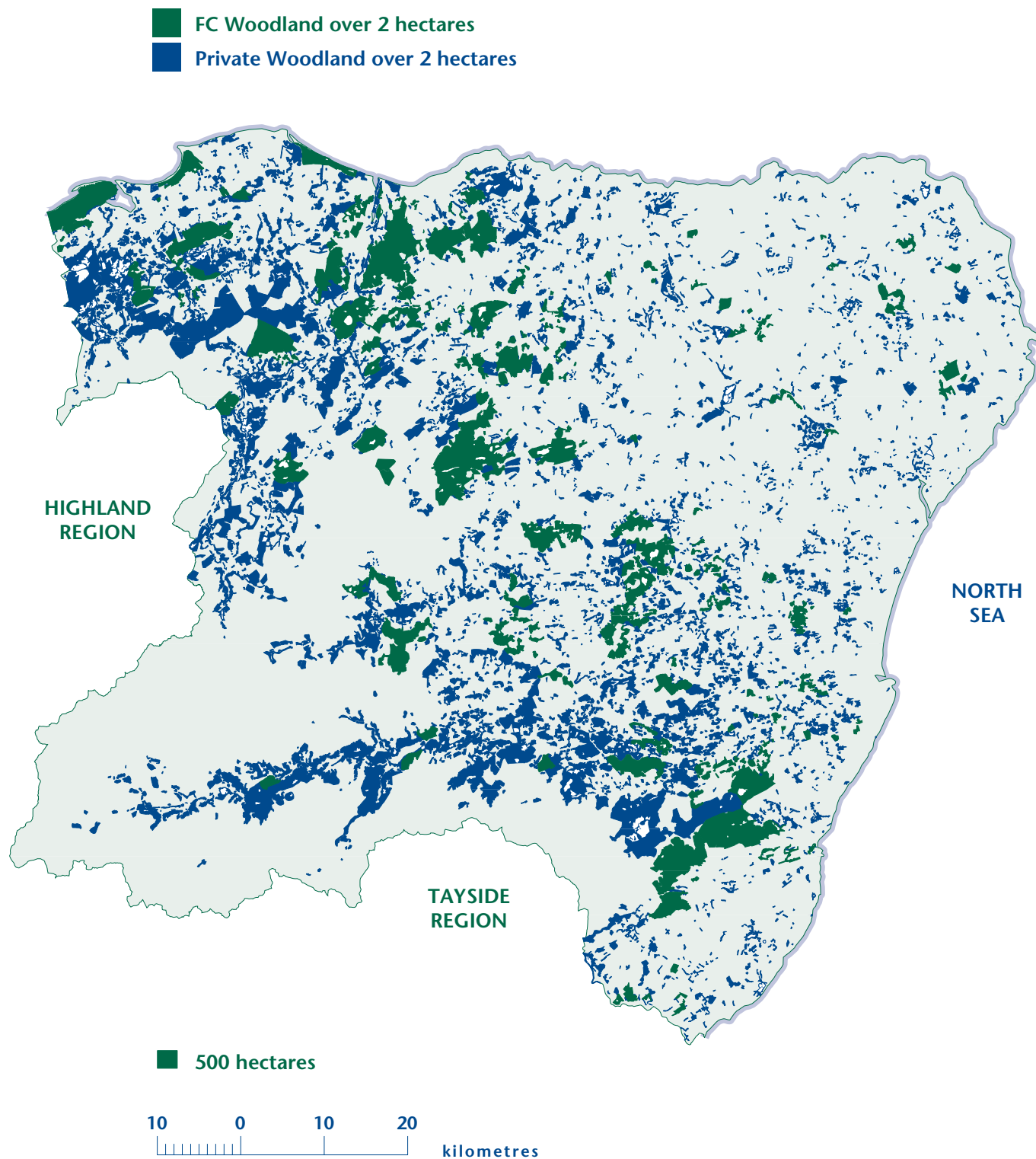


Based on Ordnance Survey mapping with the permission of the  
Controller of Her Majesty's Stationery Office.  
© Crown Copyright - Forestry Commission Licence No: GD272388

Reference Date 31 March 1994



## MAP 2 - DISTRIBUTION OF WOODLAND BY OWNERSHIP WITHIN GRAMPIAN REGION



Based on Ordnance Survey mapping with the permission of the  
Controller of Her Majesty's Stationery Office.  
© Crown Copyright - Forestry Commission Licence No: GD272388

TABLE 1 SUMMARY OF AREAS BY OWNERSHIP

Area (including inland water)	875530 ha	
	ha	% woodland
Forestry Commission Woodland Area	56891	37
Private Woodland Area	98011	63
Total Area of Woodland	154902	100
% Woodland Land Cover	17.7	

**NOTE (Table 1)**

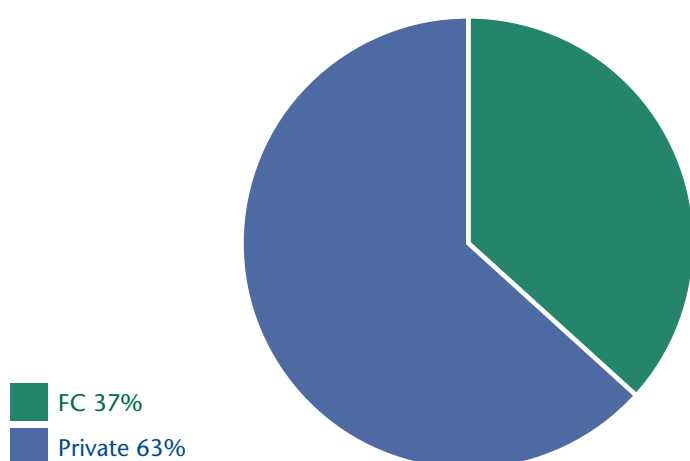
Area of Local Authority Unit from Land Cover of Scotland (LCS) map.

Woodland Area from LCS map updated to 31 March 1994.

**Ownership Categories:**

Forestry Commission (FC) All woodland owned by, or leased to, the Forestry Commission.

Private (P) Woodland other than FC woodland. Includes woodland owned by private individuals, partnerships trusts, business interests, local authorities, other government departments and agencies.

**WOODLAND AREA BY OWNERSHIP**

Note: The figures in many of the tables may not add due to rounding.

TABLE 2a SIZE CLASS DISTRIBUTION OF WOODLAND

Size Class (ha)	Number of Woods	Total Area (ha)	Percent of Total Area	Mean Wood Area (ha)
2 - < 10	1486	7205	5	4.8
10 - < 20	369	5274	3	14.3
20 - < 50	332	10292	7	31.0
50 - < 100	143	9787	6	68.4
2 - < 100	2330	32557	21	14.0
100 - < 500	119	22673	15	190.5
500 - and >	49	99854	64	2037.8
All Woods	2498	155085	100	62.1

## NOTE (Table 2a)

The total area is 183 ha more than that recorded in tables based on sample data. This is mainly due to the field samples recording some land in other land uses not differentiated from woodland in the LCS map which was prepared from aerial photographs.

TABLE 2b SIZE CLASS DISTRIBUTION OF WOODLAND BY OWNERSHIP UNITS

Size Class (ha)	FC or Private	Number of Woods	Total Area (ha)	Percent of Total Area	Mean Wood Area (ha)
0 - < 2	FC	6	8	0	1.3
	Private	134	114	0	0.9
2 - < 10	FC	35	188	0	5.4
	Private	1591	7714	5	4.8
10 - < 20	FC	25	367	0	14.7
	Private	395	5602	4	14.2
20 - < 50	FC	63	2121	1	33.7
	Private	336	10517	7	31.3
50 - < 100	FC	34	2378	2	70.0
	Private	139	9689	6	69.7
2 - < 100	FC	157	5054	3	32.2
	Private	2461	33522	22	13.6
100 - < 500	FC	44	9394	6	213.5
	Private	115	21699	14	188.7
500 - and >	FC	29	42496	27	1465.4
	Private	29	42799	28	1475.8
Total	FC	236	56951	37	241.3
	Private	2739	98134	63	35.8
Grand Total		2498	155085	100	62.1

Note: The figures in many of the tables may not add due to rounding.

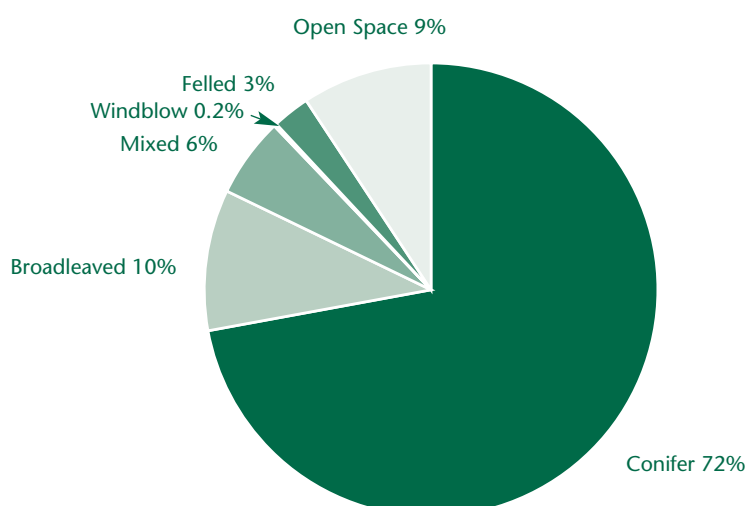
**NOTE (Table 2b)**

The total area is 183 ha more than that recorded in tables based on sample data. This is mainly due to the field samples recording some land in other land uses not differentiated from woodland in the LCS map which was prepared from aerial photographs.

The data available from the digital map enable the identification of woodlands according to their ownerships, Forestry Commission or Private. The entries in the table cannot be added to derive Table 2a as some woods may consist of both FC and Private ownership. For example, the Forestry Commission may own most of a large wood with some parts in Private ownership(s). In Table 2a the whole area would be treated as one wood and the area allocated to one size category. In Table 2b each of the ownership units would be allocated to the size category for that unit. Dividing woods by ownership can occasionally generate part-woods of less than 2 hectares.

**TABLE 3 AREAS OF WOODLAND BY FOREST TYPE AND OWNERSHIP**

Forest Type	FC		Private		All Woods	
	ha	%	ha	%	ha	%
Conifer	48196	84.7	63502	64.8	111698	72.1
Broadleaved	965	1.7	14614	14.9	15579	10.1
Mixed	1565	2.8	7243	7.4	8809	5.7
Coppiced	0	0.0	0	0.0	0	0.0
Copp-w-stds	0	0.0	0	0.0	0	0.0
Windblow	226	0.4	78	0.1	304	0.2
Felled	2471	4.3	1663	1.7	4133	2.7
Open Space	3469	6.1	10910	11.1	14379	9.3
<b>Total</b>	<b>56892</b>	<b>100.0</b>	<b>98010</b>	<b>100.0</b>	<b>154902</b>	<b>100.0</b>

**% FOREST TYPE BY AREA - ALL WOODLAND**

Note: The figures in many of the tables may not add due to rounding.

TABLE 4a AREAS OF WOODLAND BY PRINCIPAL SPECIES AND OWNERSHIP

	FC			Private			All Woodland		
Species	Area ha	cat %	spp %	Area ha	cat %	spp %	Area ha	cat %	spp %
Scots pine	13353	27	26	27931	42	33	41284	36	30
Corsican pine	1127	2	2	0	0	0	1127	1	1
Lodgepole pine	8380	17	16	7098	11	8	15478	13	11
Sitka spruce	15860	32	31	19474	29	23	35334	31	26
Norway spruce	2665	5	5	2854	4	3	5519	5	4
European larch	765	2	2	1654	2	2	2419	2	2
Jap/Hybrid larch	4857	10	10	4081	6	5	8938	8	7
Douglas fir	1280	3	3	1649	2	2	2929	3	2
Other conifers	295	1	1	495	1	1	790	1	1
Mixed conifers	661	1	1	1368	2	2	2028	2	1
<b>Total conifers</b>	<b>49242</b>	<b>100</b>	<b>97</b>	<b>66604</b>	<b>100</b>	<b>78</b>	<b>115847</b>	<b>100</b>	<b>85</b>
Oak	16	1	0	582	3	1	598	3	0
Beech	113	7	0	964	5	1	1077	5	1
Sycamore	73	4	0	494	3	1	567	3	0
Ash	11	1	0	121	1	0	132	1	0
Birch	745	44	1	9422	50	11	10167	50	7
Poplar	0	0	0	72	0	0	72	0	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	31	2	0	76	0	0	107	1	0
Other broadleaves	215	13	0	946	5	1	1161	6	1
Mixed broadleaves	504	29	1	6154	33	7	6658	32	5
<b>Total broadleaves</b>	<b>1710</b>	<b>100</b>	<b>3</b>	<b>18829</b>	<b>100</b>	<b>22</b>	<b>20539</b>	<b>100</b>	<b>15</b>
<b>Total - all species</b>	<b>50952</b>		<b>100</b>	<b>85433</b>		<b>100</b>	<b>136386</b>		<b>100</b>

Note: The figures in many of the tables may not add due to rounding.

# NOTE (Table 4a)

Percentages: **cat:** species percentage of conifer or broadleaved in the ownership category

**spp:** percentage of all species in the ownership category

In addition to the areas shown there are 4133ha of felled woodland, and 14379ha of other areas integral to the woodland not stocked with tree species. (Total 18699ha)

The standard errors of the area estimates for the most common species are as follows:

Scots pine +/- 3%

Sitka spruce +/- 3%

Birch +/- 6%

These standard errors are for the species areas in all woodland types.

## AREAS OF WOODLAND BY PRINCIPAL SPECIES AND OWNERSHIP

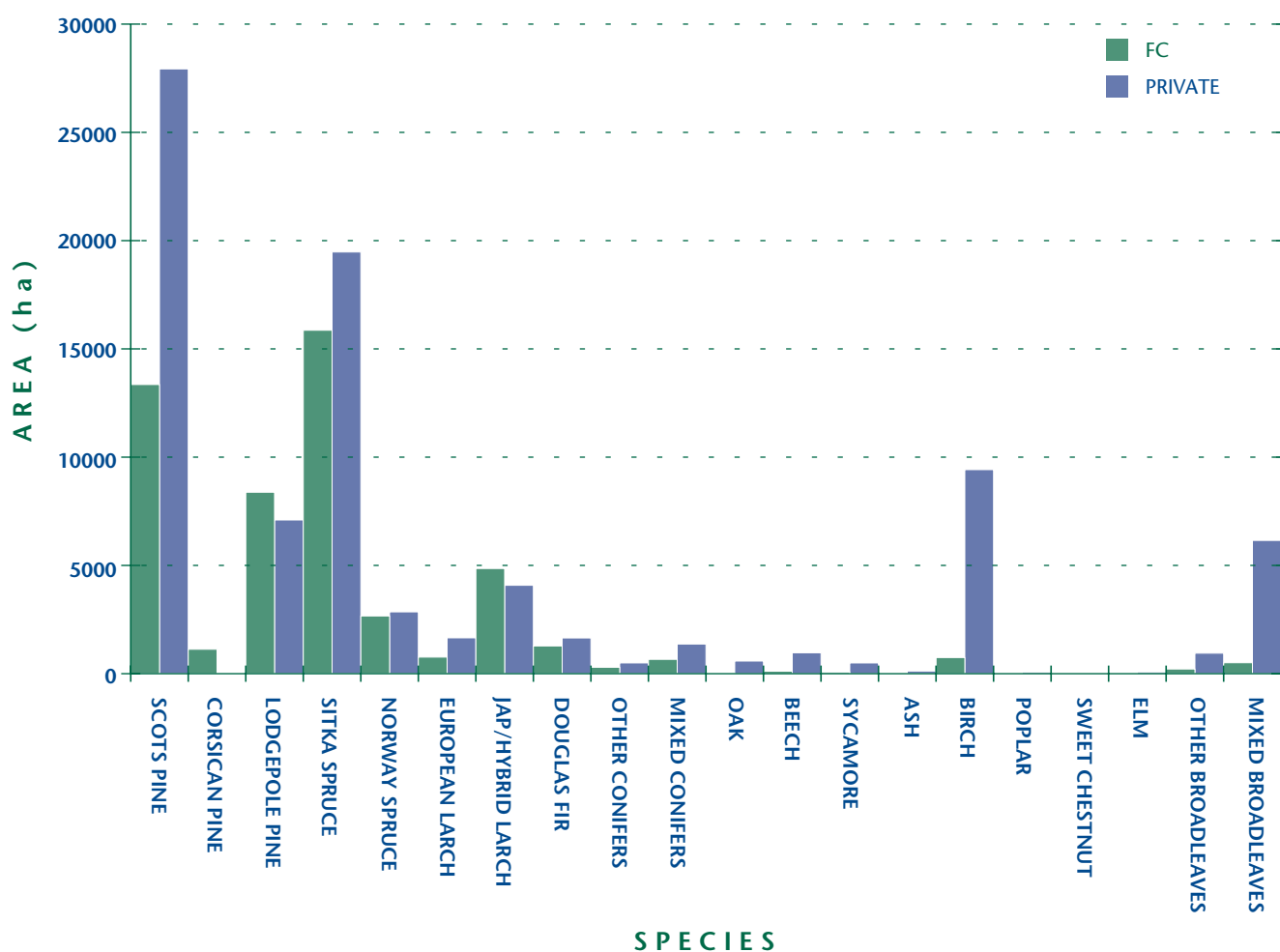


TABLE 4b AREAS OF HIGH FOREST BY PRINCIPAL SPECIES AND OWNERSHIP

	FC			Private			All Woodland		
Species	Area ha	cat %	spp %	Area ha	cat %	spp %	Area ha	cat %	spp %
Scots pine	13272	28	27	27615	42	36	40887	36	33
Corsican pine	1123	2	2	0	0	0	1123	1	1
Lodgepole pine	6657	14	14	6955	11	9	13613	12	11
Sitka spruce	15812	33	33	19371	29	26	35183	31	28
Norway spruce	2628	6	5	2805	4	4	5433	5	4
European larch	765	2	2	1619	2	2	2384	2	2
Jap/Hybrid larch	4857	10	10	4046	6	5	8903	8	7
Douglas fir	1261	3	3	1649	3	2	2910	3	2
Other conifers	295	1	1	478	1	1	772	1	1
Mixed conifers	613	1	1	1321	2	2	1934	2	2
<b>Total conifers</b>	<b>47283</b>	<b>100</b>	<b>97</b>	<b>65860</b>	<b>100</b>	<b>87</b>	<b>113143</b>	<b>100</b>	<b>91</b>
Oak	16	1	0	568	6	1	584	5	0
Beech	104	8	0	744	7	1	848	7	1
Sycamore	6	0	0	376	4	0	382	3	0
Ash	11	1	0	113	1	0	124	1	0
Birch	651	51	1	4500	45	6	5150	45	4
Poplar	0	0	0	53	1	0	53	0	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	31	2	0	76	1	0	107	1	0
Other broadleaves	129	10	0	455	5	1	584	5	0
Mixed broadleaves	335	26	1	3202	32	4	3537	31	3
<b>Total broadleaves</b>	<b>1283</b>	<b>100</b>	<b>3</b>	<b>10086</b>	<b>100</b>	<b>13</b>	<b>11368</b>	<b>100</b>	<b>9</b>
<b>Total - all species</b>	<b>48566</b>		<b>100</b>	<b>75946</b>		<b>100</b>	<b>124511</b>		<b>100</b>

Note: The figures in many of the tables may not add due to rounding.

**NOTE (Table 4b)**

High Forest is defined as: Stands (not managed as coppice or coppice with standards) of merchantable species which are, or could become, capable of producing sawlogs and small roundwood products at maturity.

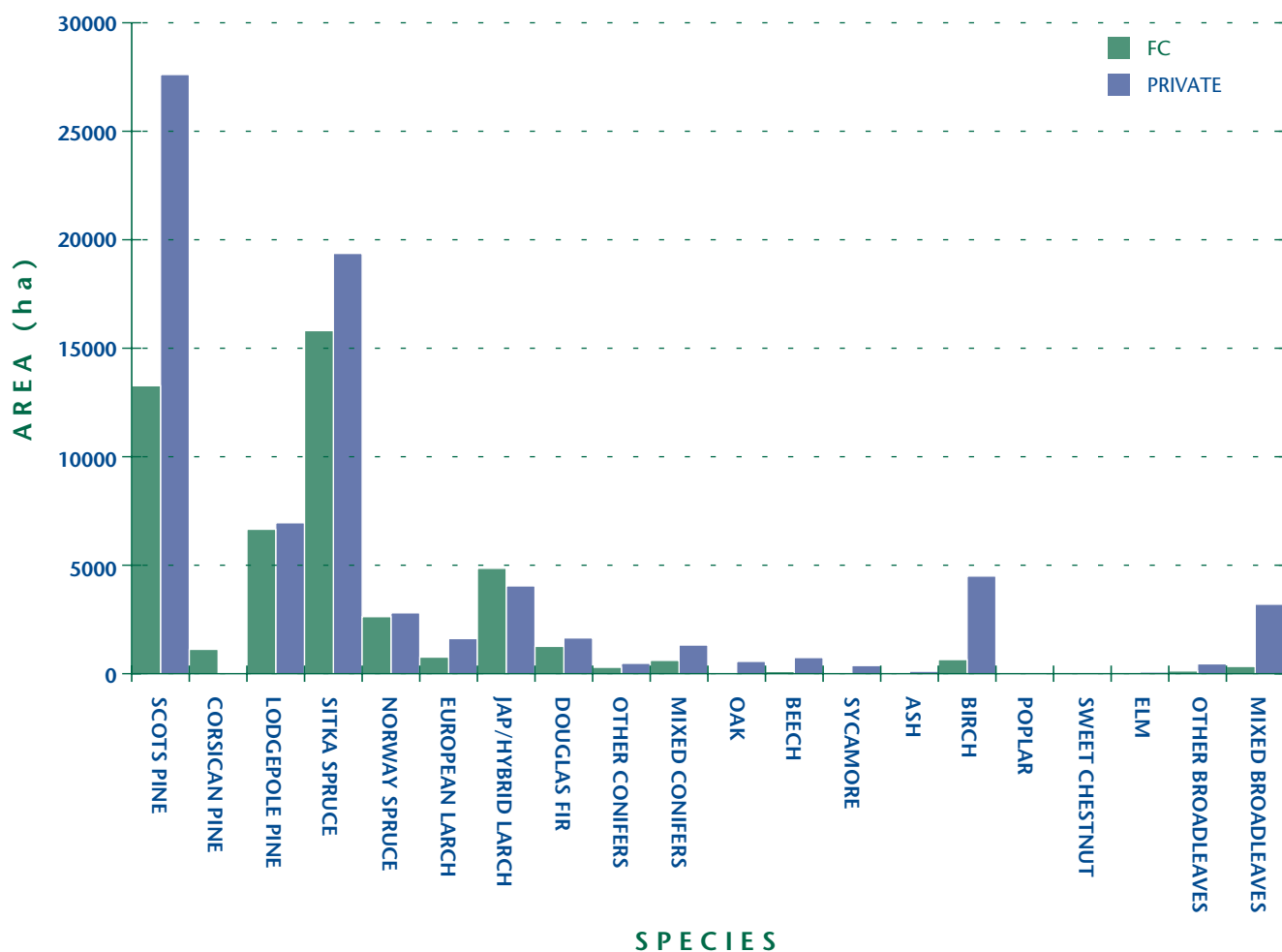
The standard errors of the area estimates for the most common species are as follows:

Scots pine +/- 3%

Sitka spruce +/- 3%

Birch +/- 9%

These standard errors are for the species areas in all woodland types.

**AREAS OF HIGH FOREST BY PRINCIPAL SPECIES AND OWNERSHIP**



**TABLE 4c AREAS OF OTHER WOODLAND BY PRINCIPAL SPECIES AND OWNERSHIP**

	FC			Private			All Woodland		
Species	Area ha	cat %	spp %	Area ha	cat %	spp %	Area ha	cat %	spp %
Scots pine	81	4	3	316	42	3	397	15	3
Corsican pine	4	0	0	0	0	0	4	0	0
Lodgepole pine	1722	88	72	143	19	2	1865	69	16
Sitka spruce	48	2	2	104	14	1	152	6	1
Norway spruce	36	2	2	49	7	1	85	3	1
European larch	0	0	0	35	5	0	35	1	0
Jap/Hybrid larch	0	0	0	35	5	0	35	1	0
Douglas fir	19	1	1	0	0	0	19	1	0
Other conifers	0	0	0	17	2	0	17	1	0
Mixed conifers	48	2	2	46	6	0	94	3	1
<b>Total conifers</b>	<b>1959</b>	<b>100</b>	<b>82</b>	<b>745</b>	<b>100</b>	<b>8</b>	<b>2704</b>	<b>100</b>	<b>23</b>
Oak	0	0	0	14	0	0	14	0	0
Beech	10	2	0	220	3	2	229	2	2
Sycamore	68	16	3	118	1	1	185	2	2
Ash	0	0	0	8	0	0	8	0	0
Birch	94	22	4	4922	56	52	5016	55	42
Poplar	0	0	0	19	0	0	19	0	0
Sweet chestnut	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	0	0	0	0	0
Other broadleaves	87	20	4	491	6	5	577	6	5
Mixed broadleaves	169	40	7	2952	34	31	3121	34	26
<b>Total broadleaves</b>	<b>427</b>	<b>100</b>	<b>18</b>	<b>8743</b>	<b>100</b>	<b>92</b>	<b>9170</b>	<b>100</b>	<b>77</b>
<b>Total - all species</b>	<b>2386</b>		<b>100</b>	<b>9488</b>		<b>100</b>	<b>11874</b>		<b>100</b>

Note: The figures in many of the tables may not add due to rounding.

**NOTE (Table 4c)**

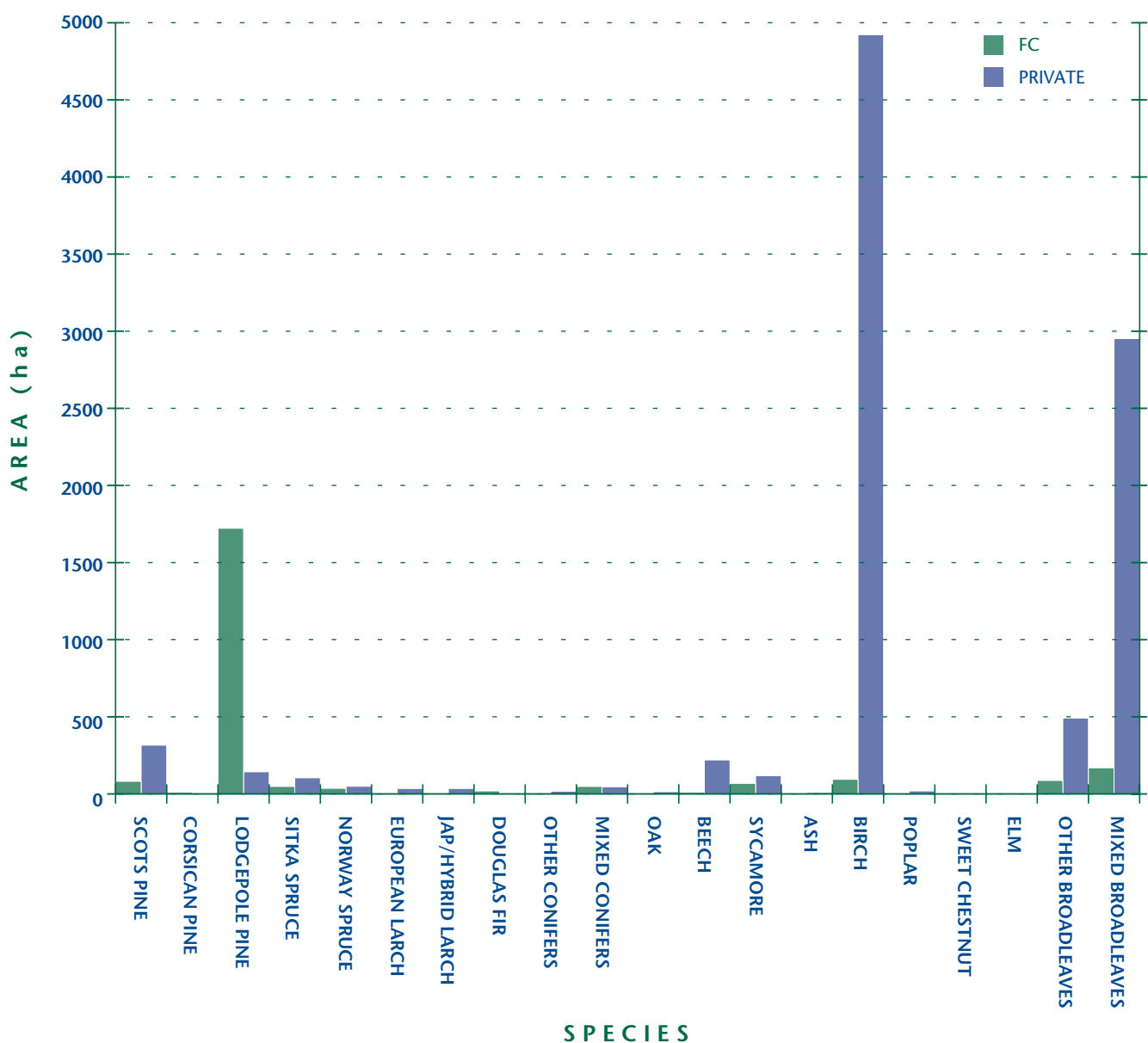
Other Woodland - Stands that could at best produce small roundwood products at maturity.

The standard errors of the area estimates for the most common species are as follows:

Lodgepole pine	+/- 15%
Birch	+/- 8%
Mixed broadleaves	+/- 10%

These standard errors are for total species area in all woodland types.

**AREAS OF OTHER WOODLAND BY PRINCIPAL SPECIES AND OWNERSHIP**



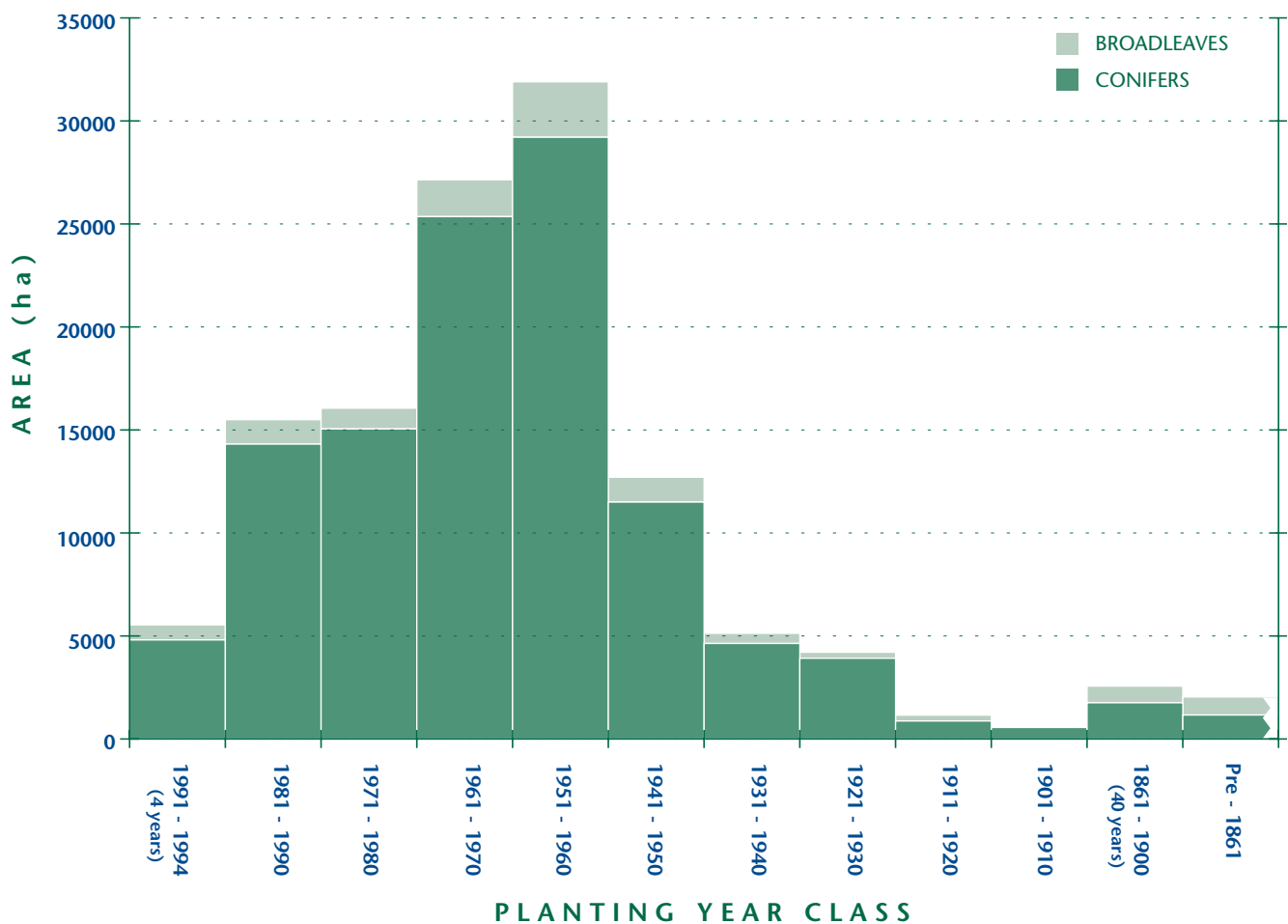
**TABLE 5a HIGH FOREST - AREAS BY PRINCIPAL SPECIES  
AND PLANTING YEAR CLASSES**

Species	PLANTING YEAR CLASS												TOTAL
	1991 -1994	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots Pine	999	1715	1939	7698	12968	5759	2846	3140	718	492	1457	1157	40887
Corsican Pine	0	183	0	82	433	87	222	116	0	0	0	0	1123
Lodgepole Pine	79	673	3682	6074	2858	150	97	0	0	0	0	0	13613
Sitka Spruce	2962	10154	8290	6736	3891	2526	533	91	0	0	0	0	35183
Norway Spruce	0	44	281	1285	2159	1164	300	199	0	0	0	0	5433
European Larch	0	26	128	347	698	449	410	130	74	21	102	0	2384
Jap/Hybrid Larch	330	813	302	1887	4437	914	176	36	9	0	0	0	8903
Douglas Fir	418	471	222	734	772	163	0	22	71	37	0	0	2910
Other Conifers	0	79	102	301	232	0	34	9	0	9	5	0	772
Mixed Conifers	19	154	106	213	761	287	19	175	0	0	194	6	1934
<b>Total conifers</b>	<b>4808</b>	<b>14313</b>	<b>15051</b>	<b>25355</b>	<b>29209</b>	<b>11499</b>	<b>4636</b>	<b>3918</b>	<b>873</b>	<b>559</b>	<b>1758</b>	<b>1163</b>	<b>113143</b>
Oak	89	141	0	0	13	8	26	17	68	0	177	45	584
Beech	0	25	63	79	61	30	39	52	78	0	178	242	848
Sycamore	0	40	80	0	105	129	11	0	0	0	17	0	382
Ash	0	31	0	23	27	42	0	0	0	0	0	0	124
Birch	103	200	571	1223	1823	749	309	91	18	0	19	44	5150
Poplar	0	0	0	53	0	0	0	0	0	0	0	0	53
Sweet Chestnut	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	40	50	16	0	0	0	0	0	107
Other Blvs	67	223	61	86	128	20	0	0	0	0	0	0	584
Mixed Blvs	473	527	228	325	493	178	90	132	120	9	418	544	3537
<b>Total broadleaves</b>	<b>731</b>	<b>1186</b>	<b>1003</b>	<b>1789</b>	<b>2689</b>	<b>1206</b>	<b>492</b>	<b>292</b>	<b>285</b>	<b>9</b>	<b>809</b>	<b>876</b>	<b>11368</b>
<b>Total - all species</b>	<b>5539</b>	<b>15499</b>	<b>16054</b>	<b>27144</b>	<b>31898</b>	<b>12705</b>	<b>5128</b>	<b>4210</b>	<b>1158</b>	<b>568</b>	<b>2567</b>	<b>2039</b>	<b>124511</b>

Note: The figures in many of the tables may not add due to rounding.

**NOTE (Table 5a)**

Age determined from records where these were available. Where records were not available or were clearly inaccurate age-class was assigned by reference to similar crops of known age in the locality. Most of the Planting Year Classes cover 10 years. 1991 - 1994 is only 4 years and the classes prior to 1901 are 40 years or more.

**HIGH FOREST - AREAS OF WOODLAND BY PLANTING YEAR CLASS**

**TABLE 5b HIGH FOREST - FORESTRY COMMISSION  
AREAS BY PRINCIPAL SPECIES AND PLANTING YEAR CLASSES**

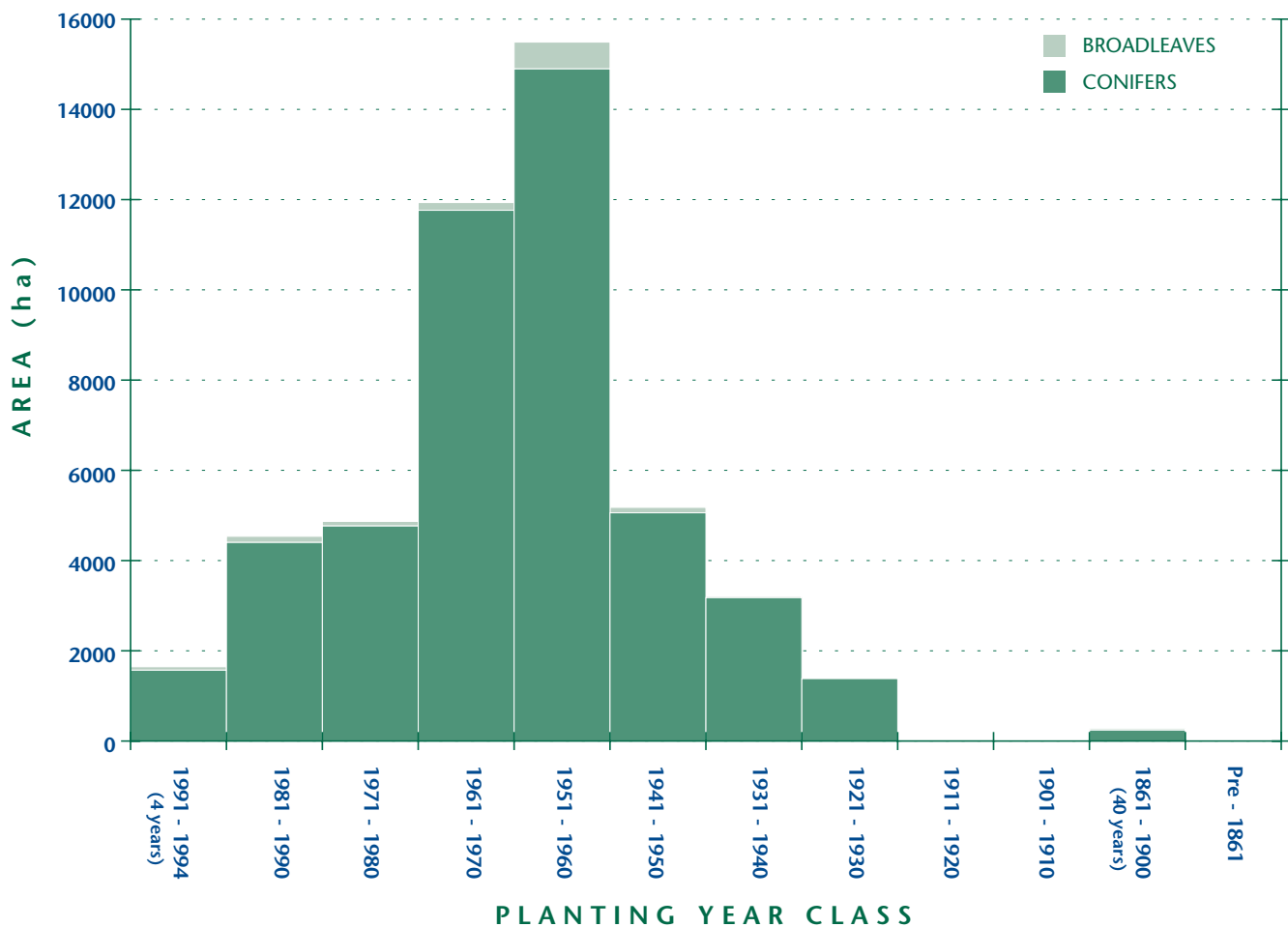
Species	PLANTING YEAR CLASS												TOTAL
	1991 -1994	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots Pine	359	784	130	1627	5408	2002	1669	1070	19	5	199	0	13272
Corsican Pine	0	183	0	82	433	87	222	116	0	0	0	0	1123
Lodgepole Pine	0	278	285	3914	2016	68	97	0	0	0	0	0	6657
Sitka Spruce	924	2872	4094	4020	1600	1748	480	73	0	0	0	0	15812
Norway Spruce	0	19	0	434	1246	536	274	119	0	0	0	0	2628
European Larch	0	0	0	149	216	29	327	0	0	0	44	0	765
Jap/Hybrid Larch	131	127	16	1014	3047	413	110	0	0	0	0	0	4857
Douglas Fir	156	127	103	322	469	80	0	4	0	0	0	0	1261
Other Conifers	0	0	68	163	63	0	0	0	0	0	0	0	295
Mixed Conifers	0	10	70	36	400	97	0	0	0	0	0	0	613
<b>Total conifers</b>	<b>1570</b>	<b>4401</b>	<b>4766</b>	<b>11763</b>	<b>14897</b>	<b>5058</b>	<b>3178</b>	<b>1383</b>	<b>19</b>	<b>5</b>	<b>243</b>	<b>0</b>	<b>47283</b>
Oak	4	0	0	0	0	0	12	0	0	0	0	0	16
Beech	0	25	0	21	21	0	15	8	0	0	12	0	104
Sycamore	0	0	0	0	6	0	0	0	0	0	0	0	6
Ash	0	0	0	0	11	0	0	0	0	0	0	0	11
Birch	4	85	39	113	321	60	0	10	0	0	19	0	651
Poplar	0	0	0	0	0	0	0	0	0	0	0	0	0
Sweet Chestnut	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	31	0	0	0	0	0	0	0	31
Other Blvs	17	4	4	36	67	0	0	0	0	0	0	0	129
Mixed Blvs	49	22	59	0	135	60	0	0	10	0	0	0	335
<b>Total broadleaves</b>	<b>75</b>	<b>136</b>	<b>102</b>	<b>171</b>	<b>593</b>	<b>120</b>	<b>27</b>	<b>18</b>	<b>10</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>1283</b>
<b>Total - all species</b>	<b>1645</b>	<b>4537</b>	<b>4868</b>	<b>11934</b>	<b>15490</b>	<b>5178</b>	<b>3205</b>	<b>1401</b>	<b>29</b>	<b>5</b>	<b>274</b>	<b>0</b>	<b>48566</b>

Note: The figures in many of the tables may not add due to rounding.

**NOTE (Table 5b)**

Age determined from records where these were available. Where records were not available or were clearly inaccurate age-class was assigned by reference to similar crops of known age in the locality. Most of the Planting Year Classes cover 10 years. 1991 - 1994 is only 4 years and the classes prior to 1901 are 40 years or more.

### HIGH FOREST - FORESTRY COMMISSION AREAS OF WOODLAND BY PLANTING YEAR CLASS



**TABLE 5c HIGH FOREST - PRIVATE  
AREAS BY PRINCIPAL SPECIES AND PLANTING YEAR CLASSES**

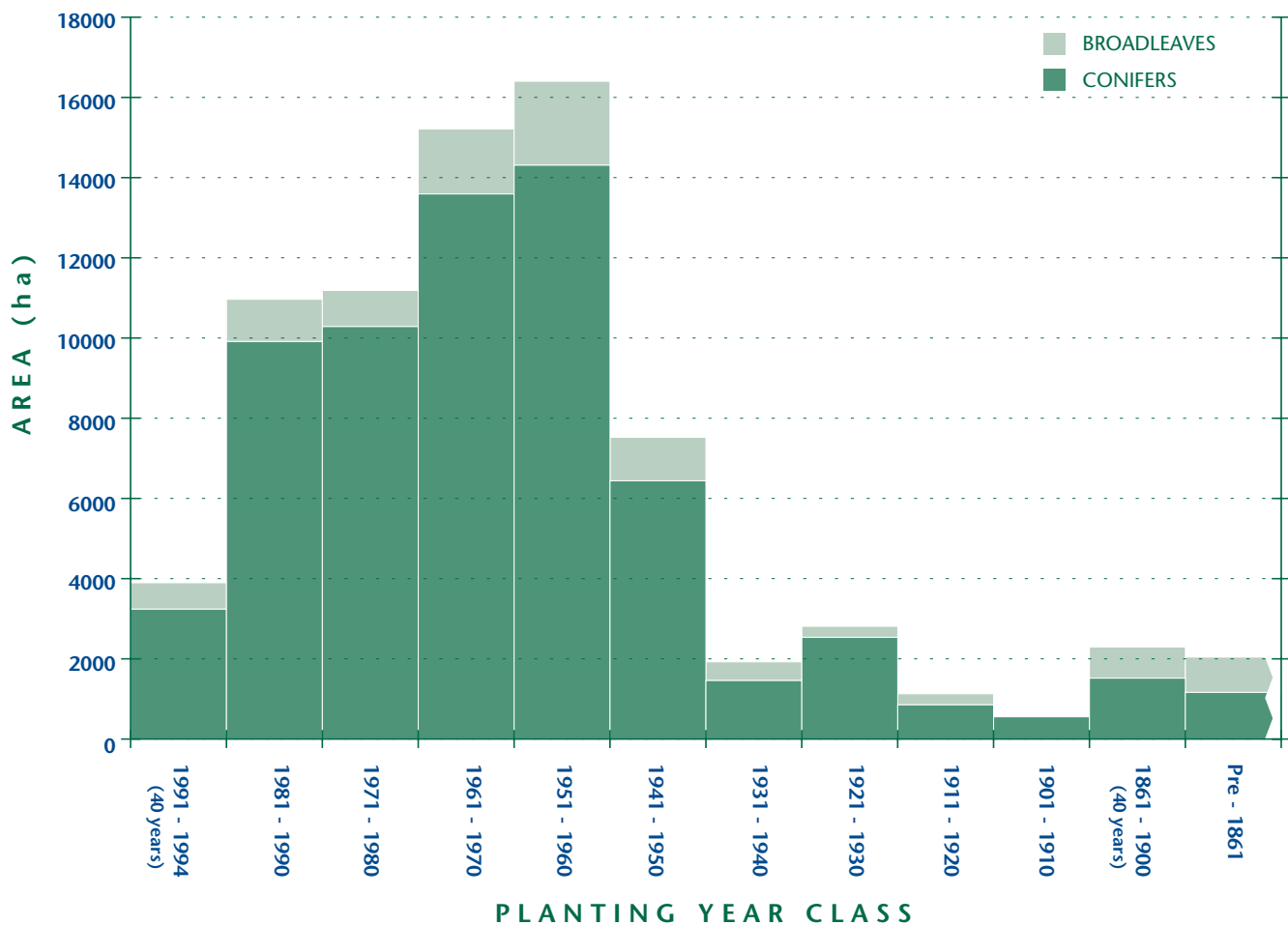
Species	PLANTING YEAR CLASS												TOTAL
	1991 -1994	1981 -1990	1971 -1980	1961 -1970	1951 -1960	1941 -1950	1931 -1940	1921 -1930	1911 -1920	1901 -1910	1861 -1900	pre - 1861	
Scots Pine	640	930	1808	6071	7561	3757	1177	2069	699	487	1259	1157	27615
Corsican Pine	0	0	0	0	0	0	0	0	0	0	0	0	0
Lodgepole Pine	79	395	3398	2160	842	81	0	0	0	0	0	0	6955
Sitka Spruce	2038	7282	4196	2715	2291	778	53	18	0	0	0	0	19371
Norway Spruce	0	25	281	851	913	628	27	80	0	0	0	0	2805
European Larch	0	26	128	198	482	420	83	130	74	21	58	0	1619
Jap/Hybrid Larch	200	686	286	872	1390	502	66	36	9	0	0	0	4046
Douglas Fir	262	344	118	412	303	84	0	18	71	37	0	0	1649
Other Conifers	0	79	34	138	169	0	34	9	0	9	5	0	478
Mixed Conifers	19	145	36	176	358	190	19	176	0	0	196	6	1321
<b>Total conifers</b>	<b>3238</b>	<b>9913</b>	<b>10285</b>	<b>13592</b>	<b>14309</b>	<b>6440</b>	<b>1459</b>	<b>2536</b>	<b>853</b>	<b>554</b>	<b>1517</b>	<b>1163</b>	<b>65860</b>
Oak	84	141	0	0	13	8	14	17	68	0	177	45	568
Beech	0	0	63	58	39	30	24	43	78	0	166	242	744
Sycamore	0	40	80	0	99	129	11	0	0	0	17	0	376
Ash	0	31	0	23	16	42	0	0	0	0	0	0	113
Birch	99	115	533	1110	1502	689	309	82	18	0	0	44	4500
Poplar	0	0	0	53	0	0	0	0	0	0	0	0	53
Sweet Chestnut	0	0	0	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	9	50	16	0	0	0	0	0	76
Other Blvs	50	219	57	50	61	20	0	0	0	0	0	0	455
Mixed Blvs	424	506	167	326	355	117	90	132	111	9	419	546	3202
<b>Total broadleaves</b>	<b>658</b>	<b>1051</b>	<b>900</b>	<b>1619</b>	<b>2094</b>	<b>1085</b>	<b>465</b>	<b>274</b>	<b>275</b>	<b>9</b>	<b>779</b>	<b>880</b>	<b>10086</b>
<b>Total - all species</b>	<b>3896</b>	<b>10964</b>	<b>11185</b>	<b>15211</b>	<b>16403</b>	<b>7526</b>	<b>1923</b>	<b>2811</b>	<b>1128</b>	<b>564</b>	<b>2295</b>	<b>2041</b>	<b>75946</b>

Note: The figures in many of the tables may not add due to rounding.

**NOTE (Table 5c)**

Age determined from records where these were available. Where records were not available or were clearly inaccurate age-class was assigned by reference to similar crops of known age in the locality. Most of the Planting Year Classes cover 10 years. 1991 - 1994 is only 4 years and the classes prior to 1901 are 40 years or more.

### HIGH FOREST - PRIVATE AREAS OF WOODLAND BY PLANTING YEAR CLASS





**TABLE 6 HIGH FOREST -  
PRINCIPAL SPECIES BY PLANTING YEAR CLASSES**

Planting Year Class	First	%	Second	%	Third	%
1991-1994	Sitka spruce	53	Scots pine	18	Mixed broadleaves	8
1981-1990	Sitka spruce	68	Scots pine	11	Jap/Hybrid larch	5
1971-1980	Sitka spruce	52	Lodgepole pine	23	Scots pine	12
1961-1970	Scots pine	28	Sitka spruce	25	Lodgepole pine	22
1951-1960	Scots pine	41	Jap/Hybrid larch	14	Sitka spruce	12
1941-1950	Scots pine	45	Sitka spruce	20	Norway spruce	9
1931-1940	Scots pine	55	Sitka spruce	10	European larch	8
1921-1930	Scots pine	75	Norway spruce	5	Mixed conifers	4
1911-1920	Scots pine	62	Mixed broadleaves	10	Beech	7
1901-1910	Scots pine	87	Douglas fir	6	European larch	4
1861-1900	Scots pine	57	Mixed broadleaves	16	Mixed conifers	8
Pre 1861	Scots pine	57	Mixed broadleaves	27	Beech	12
All years	Scots pine	33	Sitka spruce	28	Lodgepole pine	11

**TABLE 7 OWNERSHIP TYPE BY AREA  
AND PERCENTAGE**

Ownership Type	Area ha	%
Personal	77154	49.8
Business	14711	9.5
Charity	1262	0.8
Public (not FC)	4884	3.2
Forestry Commission	56891	36.7
Total	154902	100.0

**NOTE (Table 7)**

Forestry Commission: all woodland owned by or leased to the FC.

Note: The figures in many of the tables may not add due to rounding.

The 1980 Census and 1994 Inventory are surveys undertaken by very different sampling methods. The apparent differences shown in the following tables should therefore be treated with caution, particularly where areas are small.

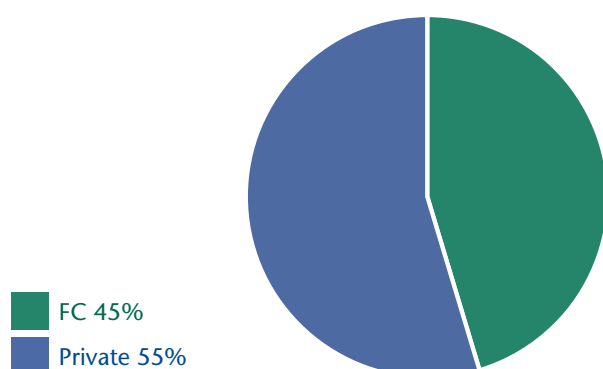
The comparison with the 1980 Census of Woodlands and Trees is not yet complete because of the difference in minimum area for woodland. Within the 1980 Census the minimum area of woodland was 0.25ha whilst in the National Inventory of Woodland it is 2ha.

The total area of woodland within the Inventory can be calculated by including the estimate of the area between 0.25 - 2.0ha once the Small Woodlands and Trees Survey is completed.

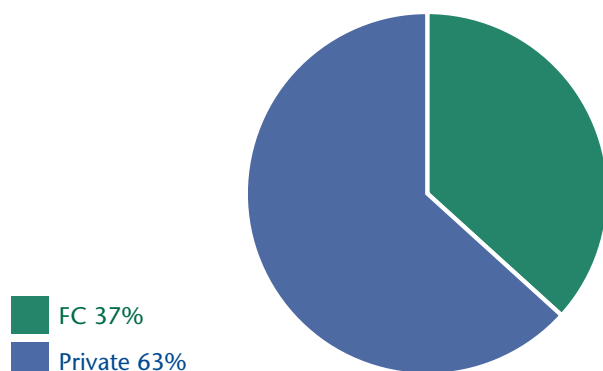
**TABLE 8 WOODLAND AREAS AND OWNERSHIP**

	CENSUS	INVENTORY
Reference Date	31/3/80	31/3/94
Area (inc. inland water)	875303	875530
FC Woodland area	59366	56891
Private Woodland area	71546	98011
Total Area of Woodland	130912	154902
% Woodland Cover	15.0	17.7

#### CENSUS 1980



#### INVENTORY 1994



Note: The figures in many of the tables may not add due to rounding.

**TABLE 9 HIGH FOREST - COMPARISON BETWEEN INVENTORY AND 1980 CENSUS AREA BY PRINCIPAL SPECIES**

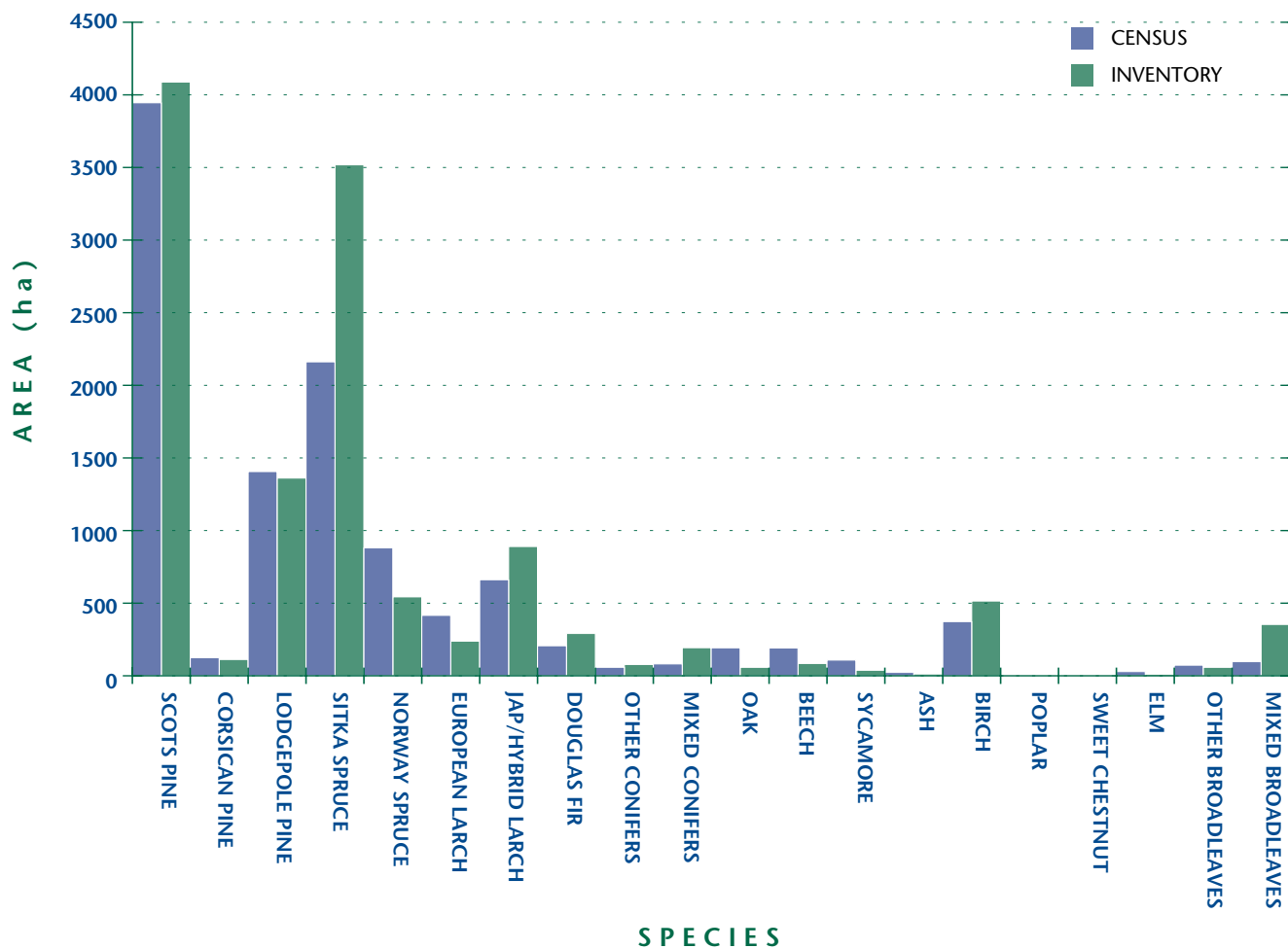
SPECIES	1980 CENSUS	1994 INVENTORY
Scots pine	39455	40887
Corsican pine	1246	1123
Lodgepole pine	14063	13613
Sitka spruce	21620	35183
Norway spruce	8804	5433
European larch	4160	2384
Jap/Hybrid larch	6615	8903
Douglas fir	2069	2910
Other conifers	586	772
Mixed conifers	817	1934
<b>Total conifers</b>	<b>99436</b>	<b>113142</b>
Oak	1927	584
Beech	1911	848
Sycamore	1081	382
Ash	231	124
Birch	3732	5150
Poplar	16	53
Sweet chestnut	2	0
Elm	288	107
Other broadleaves	731	584
Mixed broadleaves	970	3537
<b>Total broadleaves</b>	<b>10890</b>	<b>11369</b>
<b>TOTAL - all species</b>	<b>110327</b>	<b>124511</b>

**NOTE (Table 9)**

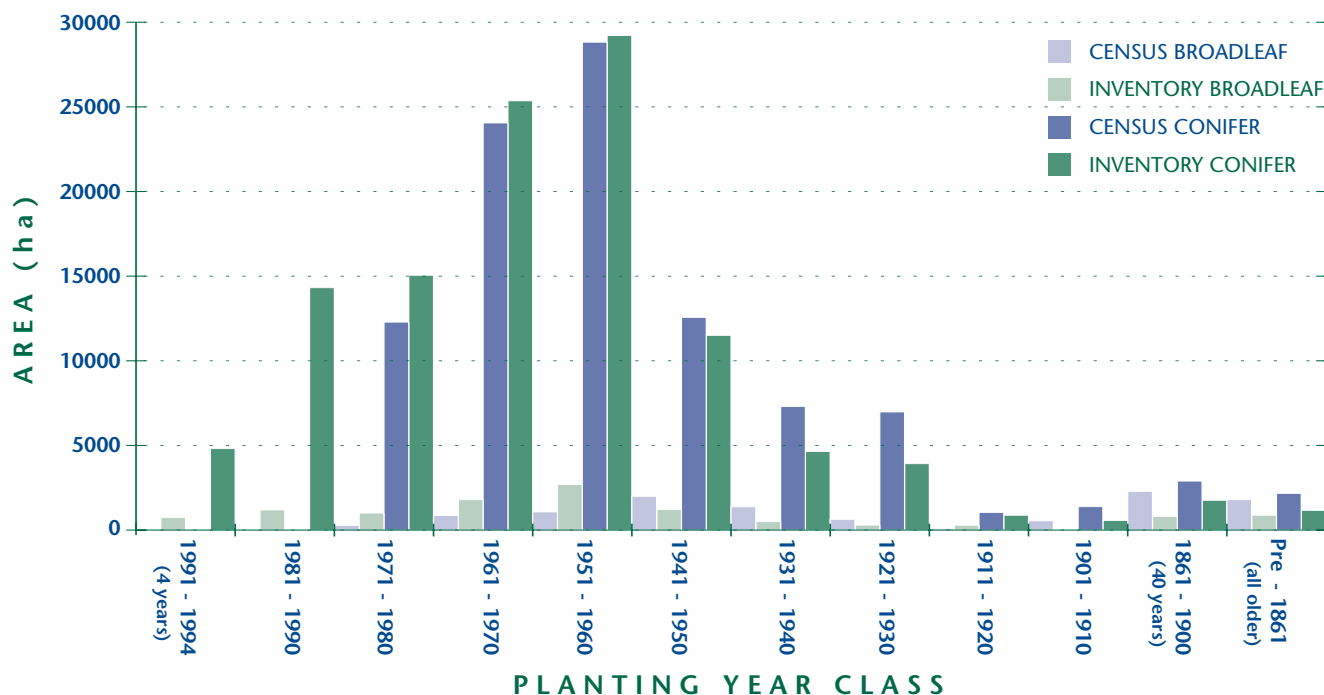
In the 1980 Census the areas assigned to species included any associated open space such as roads and rides. In the Inventory open spaces are separately identified and the overall proportion is 9.3% (Table 3). To obtain meaningful comparisons between the two datasets the 1980 Census data have therefore been reduced by 9.3%.

Note: The figures in many of the tables may not add due to rounding.

### HIGH FOREST - COMPARISON OF AREAS BY SPECIES - 1980 CENSUS AND 1994 INVENTORY



### HIGH FOREST - COMPARISON OF AREAS BY PLANTING YEAR CLASS - 1980 CENSUS AND 1994 INVENTORY



## GLOSSARY

<b>Woodland</b>	Land under stands of trees with, or the potential to achieve, tree crown cover of more than 20%; areas of open space integral to the woodland are also included. Intervening land-classes such as roads, rivers or pipelines are disregarded if less than 50m in extent. "Scrubby" vegetation is not included as a separate category but as conifer, broadleaved or mixed tree types. There is additional information on the quality of woodland within the inventory database.
	Woodland of 2ha and over, and with a minimum width of 50m, is included in the main woodland survey, Part 1 of the Inventory; other woodland and trees are assessed in Part 2, the small woodland and trees survey.
<b>Conifer</b>	Woodland containing more than 80% by area of coniferous species.
<b>Broadleaved</b>	Woodland containing more than 80% by area of broadleaved species.
<b>Mixed</b>	A combination of broadleaved and coniferous species where each category occupies at least 20% of the canopy.
<b>Coppiced</b>	Crops of marketable broadleaved species that have at least 2 stems per stool and are either being worked or are capable of being worked on rotation. With the exception of hazel coppice more than half the stems should be capable of producing 1m timber lengths of good form.
<b>Coppice with Standards</b>	Two-storey stands where the overstorey consists of at least 25 stems per ha that are older than the understorey of worked coppice by at least one coppice rotation.
<b>Felled</b>	Woodland areas that have been felled or stands where the stocking has been reduced to less than 20%.
<b>Windblow</b>	Areas of blown woodland which remain uncleared and not regenerated.
<b>Open Space</b>	Areas within a woodland that are not covered by trees but are integral to the woodland such as open areas, streamsides, deer glades, rides and forest roads.
<b>High Forest</b>	Stands (not managed as coppice or coppice with standards) of merchantable species which are, or could become, capable of producing sawlogs and small roundwood products.
<b>Other Woodland</b>	Stands that can, at best, produce small roundwood products.
<b>OWNERSHIP TYPES</b>	
<b>Personal</b>	Types of private occupation, e.g. individuals, private family trusts and family partnerships.
<b>Business</b>	Occupiers, e.g. companies, partnerships, syndicates and pension funds.
<b>Charitable</b>	Organisations funded by voluntary public subscription, e.g. National Trust, churches and colleges.
<b>Public bodies</b>	e.g. local authority, Government department/agency, nationalised industry.
<b>Forestry Commission</b>	Land owned by or land leased to the Forestry Commission



**Forestry Commission**

231 Corstorphine Road  
Edinburgh  
EH12 7AT

**£5 net**

<http://www.forestry.gov.uk>